

To: Phil May[may@rtpenv.com]
Cc: Marsh, Karen[Marsh.Karen@epa.gov]; Thompson, Lisa[Thompson.Lisa@epa.gov]; Hambrick, Amy[Hambrick.Amy@epa.gov]
Bcc: Ostrand, Laurie[Ostrand.Laurie@epa.gov]; Dickens, Brian[dickens.brian@epa.gov]; Loukeris, Constantinos[loukeris.constantinos@epa.gov]; Topinka, Natalie[topinka.natalie@epa.gov]; Wilwerding, Joseph[Wilwerding.Joseph@epa.gov]
From: Mia, Marcia
Sent: Tue 10/24/2017 2:03:02 PM
Subject: RE: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions
[Chapter 11 - Compliance.pdf](#)
[2016-11971.pdf](#)

Mr. May,

Thank you for patience as we worked through your question regarding how the 60.18 flare requirements apply during emergency releases from PRDs at a gas plant subject to NSPS OOOOa.

Our understanding is that the source is a gas plant and has applicability to NSPS OOOOa for the "group of all equipment within a process unit" (60.5365a(f)). Specifically of interest to you are the PRD requirements at 60.482-4a and the exemption from monitoring at 60.482-4a(c), which are cited from 60.5400a(a):

§60.482-4a Standards: Pressure relief devices in gas/vapor service.

(a) **Except during pressure releases**, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485a(c).

(b)(1) **After each pressure release**, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in §60.482-9a.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485a(c).

(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a **control device as described in §60.482-10a** is exempted from the requirements of paragraphs (a) and (b) of this section.

[Emphasis added]

The standards at 60.482-4a apply to “leakage” (i.e., fugitive emissions) from PRD’s as opposed to “releases” from PRDs. The exemption from monitoring for PRDs, which route to compliant control device (i.e. a 60.482-10a described control device, such as a 60.18 flare), therefore applies only to the fugitives monitoring requirements, not to releases from PRDs during a startup, shutdown or malfunction event.

During releases, the owner/operator of LDAR affected equipment under NSPS OOOOa would be subject to the “good air pollution control” requirements of 60.5370a(b), which may include the use of a 60.18 compliant flare. Whether a flare, which does not meet the requirements of 60.18 during a high pressure release, would be considered “good air pollution control” would have to be made on a site specific basis.

Also, other affected facilities (under NSPS OOOO/OOOOa or another NSPS) within the gas plant which generated the release (for example, a compressor or storage vessel) may have their own independent requirement to comply with the underlying emissions standard “at all times” which could include the use of a 60.18 compliant flare but would not allow the use of a flare which did not comply with 60.18. Without additional information about the emissions which route to the PRD, we are not clear as to your scenario where there is release from a PRD which doesn’t come from an otherwise affected facility, but we are happy to discuss such a scenario with you, if you have an example.

For your convenience, I am also attaching Chapter 11 of the NSPS OOOOa Response to Comment Document. There is a discussion of the applicability of 60.18 during malfunctions on pdf pages 196-200 and our response on pdf page 201. There is also a discussion on the use of pressure assisted flares in the 2016 Final Rule (Attached. See 81 FR 35866 Section VI.H.5 - “Flare Design and Operation Standards”),

Finally, this is not a formal determination of applicability for any specific site which you may be

envisioning. We encourage you to direct the source to the appropriate delegated authority to better determine the requirements which apply based on site specifics. I am happy to help you find the appropriate contact.

Marcia B Mia

Office of Compliance/Air Branch

2227A WJCS

U.S. Environmental Protection Agency

202-564-7042

From: Phil May [mailto:may@rtpenv.com]

Sent: Monday, October 16, 2017 12:53 PM

To: Mia, Marcia <Mia.Marcia@epa.gov>

Subject: Re: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

Do you have any update on progress related to getting a response.

Phillip May

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From: "Mia, Marcia" <Mia.Marcia@epa.gov>

Date: Monday, September 18, 2017 at 8:22 AM

To: Phillip May <may@rtpenv.com>

Subject: RE: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

I have a teleconference scheduled to discuss with the key folks, but wasn't able to get on the schedule until Oct 10. I will be in touch after that. Thanks for your patience.

Marcia B Mia

Office of Compliance/Air Branch

2227A WJCS

U.S. Environmental Protection Agency

202-564-7042

From: Phil May [<mailto:may@rtpenv.com>]

Sent: Sunday, September 17, 2017 9:39 AM

To: Mia, Marcia <Mia.Marcia@epa.gov>

Subject: Re: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

It's been a couple weeks, so I thought I would check on progress with this response.

Thanks

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From: "Mia, Marcia" <Mia.Marcia@epa.gov>

Date: Thursday, August 31, 2017 at 3:36 PM

To: Phillip May <may@rtpenv.com>

Subject: RE: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

I did get some feedback on my draft response which has elicited some additional discussion. I will keep you posted and keep moving it forward.

Marcia B Mia

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2227A WJCS

U.S. Environmental Protection Agency

202-564-7042

From: Phil May [<mailto:may@rtpenv.com>]

Sent: Wednesday, August 30, 2017 4:00 PM

To: Mia, Marcia <Mia.Marcia@epa.gov>

Subject: Re: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

Thank you for the quick reply.

Phillip May

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From: "Mia, Marcia" <Mia.Marcia@epa.gov>
Date: Wednesday, August 30, 2017 at 3:56 PM
To: Phillip May <may@rtpenv.com>
Subject: RE: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

I have not forgotten you. I have been unsuccessful in engaging the other folks who I wanted to preview my response. I will send it around again and be in touch.

Marcia B Mia

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U.S. Environmental Protection Agency

202-564-7042

From: Phil May [<mailto:may@rtpenv.com>]
Sent: Wednesday, August 30, 2017 3:38 PM
To: Mia, Marcia <Mia.Marcia@epa.gov>
Subject: Re: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

I've never heard anything back in response to this request. Can you please provide an update regarding whether the agency will be providing a response?

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From: "Mia, Marcia" <Mia.Marcia@epa.gov>

Date: Monday, July 24, 2017 at 1:16 PM

To: Phillip May <may@rtpenv.com>

Cc: "Hambrick, Amy" <Hambrick.Amy@epa.gov>

Subject: RE: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

Phil,

I failed to get you a response before I left for vacation. I was awaiting feedback from our Region 5 (you indicated the source was in R5) LDAR person, but it appears he is on his honeymoon!

He is not back until August 1.

Marcia B Mia

Office of Compliance/Air Branch

2227A WJCS

U.S. Environmental Protection Agency

202-564-7042

From: Phil May [<mailto:may@rtpenv.com>]

Sent: Wednesday, June 28, 2017 3:06 PM

To: Mia, Marcia <Mia.Marcia@epa.gov>

Cc: Hambrick, Amy <Hambrick.Amy@epa.gov>

Subject: Re: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

I'm out on Monday as part of the holiday but anytime on Wednesday after 9:00 AM EDT will work for me. Feel free to send a meeting request. Thanks

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From: "Mia, Marcia" <Mia.Marcia@epa.gov>

Date: Wednesday, June 28, 2017 at 3:02 PM

To: Phillip May <may@rtpenv.com>

Cc: "Hambrick, Amy" <Hambrick.Amy@epa.gov>

Subject: RE: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

Thanks Phil and sorry you met with a run around on my end. I am happy to discuss but would like for Amy to also be on the call. What is your schedule Mon or Wed of next week?

Marcia B Mia

Office of Compliance/Air Branch

2227A WJCS

U.S. Environmental Protection Agency

202-564-7042

From: Phil May [<mailto:may@rtpenv.com>]

Sent: Wednesday, June 28, 2017 1:38 PM

To: Mia, Marcia <Mia.Marcia@epa.gov>

Subject: Re: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

I'd left a number of voicemails at your number and heard no reply back so I went back and called Amy Hambrick at OAQPS to see if she could be some help. She has sent me back to you. I'd like to discuss the situation behind my original email with you before sending back a reply email such that when I do reply I have any contextual information included such that you can provide as site specific a reply as

possible. If you could give me a call back it would be greatly appreciated.

Thanks and I'll look forward to talking with you.

Phillip May

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From: "Mia, Marcia" <Mia.Marcia@epa.gov>

Date: Wednesday, May 31, 2017 at 5:25 PM

To: "Hambrick, Amy" <Hambrick.Amy@epa.gov>, "Marsh, Karen" <Marsh.Karen@epa.gov>, Phillip May <may@rtpenv.com>

Cc: "Witosky, Matthew" <Witosky.Matthew@epa.gov>, "Thompson, Lisa" <Thompson.Lisa@epa.gov>

Subject: RE: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

Mr. May,

We have been discussing your questions so that we might provide the best guidance. We had the following questions and thoughts.

Does the flare receive emissions from other OOOOa regulated emissions sources, or only the regulated equipment at the gas plant? Similarly, is the CVS otherwise subject to 60.5411a?

Also, from your description, it appears that the pressure assist always actuates with the PRD release? If that is the case, then I'm not quite following why compliance with 60.18 wouldn't be required, as plainly written, in order to avail yourself of the exemption from monitoring.

To paraphrase and substitute your scenario for the requirement:

Paraphrased Requirement:

"Any pressure relief device that is equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device ***which complies with the requirements of § 60.18*** is exempt"

Your scenario:

The flare will operate in pressure assist mode only during pressure release events and during these times ***it doesn't comply with the requirements of 60.18*** (because it exceeds Vmax).

Outcome:

If that is the case, the exemption wouldn't apply because the requirement to comply with 60.18 isn't met. But I feel like I'm missing a nuance that you are trying to describe.

Let us know your thoughts on this initial walk through.

From: Phil May [<mailto:may@rtpenv.com>]

Sent: Wednesday, May 10, 2017 7:51 PM

To: Hambrick, Amy <Hambrick.Amy@epa.gov>

Subject: Subpart OOOOa Question Regarding Applicability of Flare 60.18 Vmax Requirement During Unforeseeable Malfunctions

Amy,

Thanks again for your time on the call today. This is the follow-up email that you requested after I laid out my question.

As noted during my call, as part of a proposed project to avoid having gases leak or vent to the atmosphere at an NSPS subpart OOOOa affected facility, a client would like to install a closed vent system controlled by a flare to control relief valve leakage and releases due to unforeseeable malfunctions. We're trying to confirm that the monitoring requirement in NSPS subpart VVa (40 CFR § 60.482-4a(b), by reference from 40 CFR § 60.5400a(a) in NSPS subpart OOOOa does not apply to the pressure relief devices served by this closed vent system. The planned flare is an air-assisted flare with a pressure-assist mode; the flare will operate in pressure-assist mode only during pressure release events. My regulatory analysis looks as follows:

1. The requirements in NSPS subpart OOOOa at 40 CFR §§ 60.5400a(a) and 60.5401a(b)(1) reference the requirements of NSPS subpart VVa, including 40 CFR § 60.482-4a(c), which provides the following exemption: *"Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system [emphasis added] capable of capturing and transporting leakage through the pressure relief device to a control device as described in § 60.482-10a is exempted. . ."*
2. Per the closed vent system and control device standards at §60.482-10a(d), *"Flares used to comply with this subpart shall comply with the requirements of § 60.18."*

As noted during our call, this is logical – if emissions from leaks will be controlled by a flare or other control device meeting the rule requirements, then there is no regulatory obligation to perform monitoring and repair to avoid those emissions. However, NSPS subpart OOOOa was developed after the *Sierra Club* decision, so it negates the generally applicable provisions regarding emissions during startup, shutdown, and malfunction events. Specifically, as 40 CFR § 60.5370a(b) states, the “provisions for exemption from compliance during periods of startup, shutdown and malfunctions provided for in 40 CFR 60.8(c) do not apply to this subpart.” Thus, per the definition of deviation at 40 CFR § 60.5430a, deviations include periods when the affected facility *"Fails to meet any emission limit, operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, . . ."*

One of the applicable requirements of 40 CFR § 60.18 is the requirement at 40 CFR § 60.18(c)(5), which mandates that each air-assisted flare “shall be designed and operated with an exit velocity less than the velocity, V_{max} , as determined by the method specified in paragraph (f)(6).” The planned flare will operate within V_{max} during normal operation, but could exceed V_{max} during a pressure release.

Based on this analysis, I'm left with the following questions

1. Does the flare need to be designed to be compliant with the V_{\max} limitation during all pressure release events, including unforeseeable malfunctions, in order to qualify for the monitoring exemption at 40 CFR § 60.482-4a(c)?
2. If I install the properly sized flare for the foreseeable operation of the flare (i.e., relief valve leakage) and I have an unforeseeable malfunction that results in a velocity at the flare tip that is greater than V_{\max} , is that a reportable deviation, and, if so, in the context of which requirements?
3. If I install the properly sized flare for the foreseeable operation of the flare (i.e., relief valve leakage) and I have an unforeseeable malfunction that results in a velocity at the flare tip that is greater than V_{\max} , and I report that as a deviation, is that when the language at 40 CFR § 60.5370a(b) becomes applicable?

Thank you for your consideration of these questions.

Phillip May

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